### What is Radon?

Radon is a colorless, odorless, radioactive gas, naturally emitted from the decay of uranium in the soil and rocks beneath a home. You cannot see, hear, smell, taste, or feel radon. Radon enters homes through cracks and pipe penetrations in the home's foundation, and can accumulate to elevated levels (4.0 pCi/l or higher). According to the U.S. Environmental Protection Agency (E.P.A.) it is the second leading cause of lung cancer. A radon test is the only way to determine the radon level in your home.

E.P.A. and the Wyoming Department of Health recommend fixing any home with radon levels greater than 4.0 pCi/l. According to the E.P.A., at this level, seven of every 1,000 people (non-smokers) and 62 of every 1,000 (smokers) could develop lung cancer after living in a home for many years.

Not everyone exposed to elevated levels of radon will develop lung cancer. However, the higher the radon level, the greater the risk people have of developing lung cancer. Many areas in Wyoming have been identified as having elevated levels of radon.

### What is Appendix F & RRNC?

Appendix F is part of the International Residential Building Code designed for the installation of passive radon mitigation systems in new homes. Adoption of Appendix F is at the discretion of local building code officials, and is highly encouraged by the E.P.A. and by the Wyoming Radon Program. RRNC techniques are construction plans for building radon mitigations systems into new homes during construction of the home.

Appendix F and RRNC provides installation details for radon mitigation systems in new home construction. The mitigation system collects radon gas from beneath a home and vents it to the atmosphere. A radon fan can be included to further reduce radon levels in a home.

All of the techniques and materials are commonly used in construction. No special skills or materials are required. However, proper installation of the radonresistant (RRNC) features is important.

# Levels of Radon Throughout Wyoming









Above 4.0 pCi/L

## Why is Appendix F & RRNC Important?

According to the E.P.A., radon is the second leading cause of lung cancer. Exposure to radon can independently increase the risk of lung cancer, and the Wyoming Department of Health 2009 Annual Cancer Report indicates lung cancer as the highest cancer mortality in Wyoming. When a city adopts Appendix F, and builders use RRNC, they help lower the levels of radon, and the risk of lung cancer, of their residents. Appendix F and RRNC can help save time, money and lives. The Wyoming Radon Program supports the adoption of Appendix F.

Alpine, Burns, Star Valley Ranch, Buffalo, Diamondville, Glenrock, Green River, Guernsey, Jackson, Lusk, Meeteetse, Mills, Mountain View, Pine Haven, Rawlins, Riverton, Torrington, Worland and Teton County adopted Appendix F.

### BUILDING RADON OUT



#### WITH SIMPLE CONSTRUCTION METHODS

Visit www.epa/gov/iaq.radon Or call 1-800-55-RADON

Radon vent pipe exits roof like a plumbing vent pipe.

Electrical junction box provided in attic for later installation of fan to increase system performance if radon test is elevated.

Builder installs vent pipe through house's conditioned space.

3 inch or 4 inch PVC Schedule 40 vent pipe stubbed up through slab.

Slab perimeter crack sealed with polyurethane caulk.

6 mil polyethylene sheeting over gravel layer or optional geotextile matting (special options available for crawl spaces).





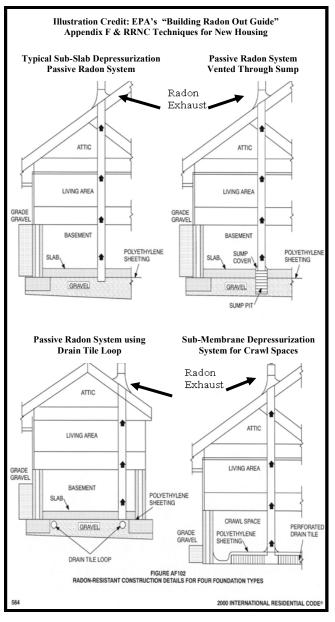
www.wvomingradon.org

- Radon is a naturally occurring radioactive gas that causes thousands of lung cancer deaths every year.
- Radon is found in homes throughout the U.S.
- Radon enters homes through cracks in the walls, joints, and foundation.
  - Homes can be built to resist radon entry.
- Radon resistance is a valuable feature to health-conscious homebuyers.

### Why Use Appendix F or RRNC Techniques to Build Radon Systems Into New Hous-

#### **Radon-Resistant New Construction Techniques:**

- Improves cost & efficiency in radon removal.
- Seals all cracks in the foundation.
- Better control of moisture and mold in the home.
- Hides the radon piping and fan from view.
- Improves aesthetics for real estate value.
- Helps reduce the chance of lung cancer in residents!



### Why Adopt Appendix F?

The Town of Jackson and Teton County chose to adopt Appendix F for the protection and well being of the public. With testing showing elevated levels of radon, construction practices making new homes more energy efficient and existing homes being sealed tighter it only made sense to mitigate radon from our homes. Recognition of radon being an issue has become so prevalent in the real estate industry that you can rarely purchase a home without it being mentioned in the disclosure statement. Radon mitigation has been in place within Teton County for more than a decade with excellent results.

Mark Antrobus,

Teton County Building Official, Jackson, WY

The City of Green River Wyoming has adopted the IRC Appendix F section covering Radon mitigation. We want our residents safe from this toxic gas. We enforce construction methods with Radon mitigation to lower the Radon levels in our new homes.

David C Allred C.B.O.
Senior Building Inspector, Green River, WY

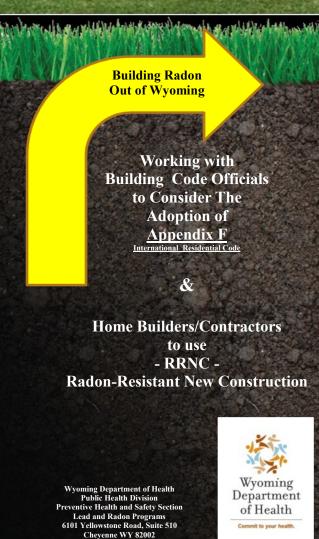
The construction techniques used for radon mitigation, should be learned and practiced by all architects. Radon's potential carcinogenic effects in residential structures can be minimized by using these techniques during the initial construction or renovation. The cost of mitigation is minimal in new construction, and although somewhat greater in existing structures, is very inexpensive in comparison to the cost of treating the lung cancer which could be caused by unchecked radon gas.

Danny Williams Architects and Planners Paul J. Bulat, Architect, Jackson, WY

Installing a radon system in a home, at initial construction, helps lower health risks, makes the most financial sense; is more efficient and quite easy to install at this time as opposed to having to add a system after an issue has been detected. The safety net for a home owner outweighs the initial cost they spend on having a mitigation system installed up front.

Eric Adams, Project Manager Gateway Construction, LLC., Cheyenne, WY





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